What Is Claimed Is:

1. A wavelength reference apparatus for use in calibrating a tunable Fabry-Perot filter or a tunable VCSEL, whereby the device may be tuned to a precise, known wavelength, the wavelength reference apparatus comprising:

an LED, where the LED is chosen so as to have an emission profile which varies with wavelength;

an etalon, where the etalon is chosen so as to have a transmission profile which comprises a comb of transmission peaks, with each transmission peak occurring at a precise, known wavelength; and

a detector for detecting the light emitted by said LED and passing through said etalon;

whereby when a tunable Fabry-Perot filter or tunable VCSEL is positioned between said etalon and said detector, and the device is swept through its tuning range by varying the tuning voltage applied to the device, the known transmission wavelengths established by said LED and said etalon can be

correlated to counterpart tuning voltages of the device, whereby to calibrate the device.

2. A method for calibrating a tunable Fabry-Perot filter or a tunable VCSEL, whereby the device may be tuned to a precise, known wavelength, comprising the steps of:

(1) energizing an LED so as to produce an emission of light, the LED being chosen so as to have an emission profile which varies with wavelength;

(2) passing the light output by the LED through an etalon so as to generate a comb of known transmission peaks, with each transmission peak occurring at a precise, known wavelength;

(3) passing light from the etalon to the device; and

(4) sweeping the device through its tuning range by varying the tuning voltage applied to the device, whereby a correlation may be established between the known wavelength of each transmission peak and the

tuning voltage associated with that wavelength, whereby to calibrate the device.

3. Apparatus according to claim 1 wherein said LED comprises a broadband InGaAsP/InP LED.

4. Apparatus according to claim 1 wherein said etalon comprises a solid filter.

5. Apparatus according to claim 1 wherein said etalon comprises an air-spaced filter.

6. Apparatus according to claim 1 wherein said etalon comprises a MEMs (microelectromechanical) etalon.

7. A method according to claim 2 wherein said LED comprises a broadband InGaAsP/InP LED.

8. A method according to claim 2 wherein said etalon comprises a solid filter.

9. A method according to claim 2 wherein said etalon comprises an air-spaced filter.

10. A method according to claim 2 wherein said etalon comprises a MEMs (microelectromechanical) etalon.

11. A method according to claim 2 wherein said method includes interpolation to determine values between transmission peaks.

12. A method according to claim 2 wherein said method includes extrapolation to determine values beyond the span of the transmission peaks.